

Validation and performance assessment of the Chinese First Multi-angle Polarimetric Satellite Sensor DPC/GF-5

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After the successful launch of the Chinese GaoFen-5 (GF-5) satellite on the 9th May 2018, the on-orbit performance assessment of the Directional Polarimetric Camera (DPC) has been performed by analyzing observations over atmosphere, ocean and of the Earth. DPC has a 3.3 km spatial resolution along with 1850 km swath width, operated on a 13:30 pm sun synchronous orbit, aiming at monitoring global aerosol and clouds with 2 days re-visiting capability. The DPC sensor is the Chinese first multi-angle polarimetric satellite sensor contributing to atmospheric environment monitoring and climate variables detection.

Both radiometric and polarimetric observations over ocean are conducted to validate pre-launch laboratory calibration precision. The columnar water vapor over land and ocean are derived from the absorption bands to evaluate the wavelength registration. The cloud pixels are identified to assess the multi-band configuration. The aerosol optical depths for both fine and coarse modes are retrieved to check the instrument performance. More than 200 Sun/sky radiometer sites over the world are used in the quantitative validation. This talk provides a summary of above activities and give present a first glance of the DPC/GF-5 products.

References

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